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**CONFIDENTIAL**  
**FACSIMILE TRANSMITTAL SHEET****DATE SENT:** February 23, 2005**DELIVER TO:**Name: Board of Patent Appeals and InterferencesCompany: USPTOFax No: 571-273-0052**FROM:** Jaclyn A. Schade**YOUR FILE:** 09/768,829**RECEIVED**

FEB 23 2005

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
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**X** **REPLY BRIEF**

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09/768,829

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Chu et al.

Serial No.: 09/768,829 Group Art Unit: 2675

Filed: 1/25/2001 Examiner: Leland R. Jorgensen

Title: **COMPACT UNIVERSAL KEYBOARD**REPLY BRIEF

Attn: Board of Patent Appeals and Interferences  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Sir:

In response to the Appeal Brief filed September 28, 2004, and the Examiner's Answer dated December 27, 2004, Applicants submit the following reply.

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09/768,829REMARKS

This Reply Brief is in response to the Examiner's Answer dated December 27, 2004.

Reconsideration of this application is respectfully requested in view of the foregoing remarks. In addition, all of the arguments in the appeal brief of September 28, 2004 and prior responses should also be considered in support of the claimed elements provided in the present invention.

STATUS OF CLAIMS

Claims 1-10 and 12-36 are pending.

Claim 11 is cancelled.

Claims 1, 2, and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wang et al., USP 5,661,476.

Claim 30 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Lu, EP0889388 A1.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Acevedo, USP 5,818,361.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Abraham, USP 5,841,374.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Moon, USP 5,812,117.

Claims 8, 9, 12, and 31-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Will, USP 5,825,353.

Claims 10, 11, 13, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Will as applied to claim 8, and further in view of Kachler, USP 5,128,672.

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Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Will as applied to claim 8, and further in view of Wang.

Claims 15, 16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Wang.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Wang as applied to claims 15 and 16, and further in view of Kaehler.

Claims 20-29 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Macor, USP 5,841,849, in view of Lu.

Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu in view of Kaehler as applied to claim 17, and further in view of Lo, USP 6,072,471.

#### RESPONSE TO EXAMINER'S ANSWER

The present invention claims a reduced character entry system on devices, e.g., with limited surface space, while using a familiar keyboard layout, such as a QWERTY style keyboard, for easy and fast entry (see specification, page 2, lines 8-16; page 7, lines 2-17, and pages 10-11). At least three claim elements which are important- "reduced", "a set of single row of characters from QWERTY style keyboard rows", and "side surfaces" -are repeatedly and consistently ignored and given no weight by the examiner. However, the examiner cites that the claim elements are "identical" to the prior art.

Reduced, by common definition (Merriam Webster's Collegiate Dictionary 10<sup>th</sup> edition), means to diminish in size, amount, extent, or number. The examiner is required to look to such well-known definitions as well as Applicant's application as filed. Throughout the present invention specification, drawings, and claims, various embodiments are described where less than an entire set (e.g., a row) of alphabetic characters are used to enter characters. A simple

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viewing of the front of the Wang patent illustrates a "personal information device" where the *entire alphabet* is available during character entry. Where is the reduced character input system? Wang does not provide, suggest, or render obvious a reduced character entry system, nor does it provide a reason for modification as the entire alphabet is displayed and available at all times.

The "single row" element, as provided in independent claims 1 and 15, is not available during entry sequences. Further, the cited and/or applied references do not teach choosing a row from QWERTY style rows; rather, they teach away from this most recognized format to provide other typing solutions. The QWERTY format is used for quick and easy entry and cannot be lightly discarded or ignored.

The side surfaces element allows data entry on small thin devices such as cell phones and PDAs where front/top surface area is at a premium. The examiner cannot ignore the claims, drawings, and descriptions and substitute their own definition of sides which contrasts with well-known conventions and Applicant's disclosure.

#### Claims 1, 2 and 6

On page 5 of his answer, the examiner states that Wang is "identical" to the present invention. However, figure 1b of Wang does not show a reduced character entry system as described by the present invention. Figures 2a-2b and 3a-5b of the present invention illustrate portable devices with limited space, such as a PDA, watch, or cell phone. One goal of the present invention is to introduce a reduced character entry system on devices with limited surface space (while using a known keyboard layout). The figures of Wang, however, illustrate a device displaying an entire set of available characters. This teaches away from the present invention. Wang is not a reduced character entry system in that the device requires the display of the entire set to the user. Therefore, upon closer examination, figure 1b of Wang is not identical nor does it

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describe the elements of claim 1. Claim 1 describes a reduced character entry system comprising a first set of multiple keys. Claim 1 also states that the first set of multiple keys represents a selected subset comprising a single row of characters. The first set of multiple keys in Wang (figure 1b; 102-11 – 102-7) as noted by the examiner does not represent a single row. The examiner has incorrectly read the description of figure 1b. Wang discloses that when key 102-10 is first selected, column set 103e is selected (see Wang, column 3, lines 54-59). The noted keys 102-11 – 102-7 represent selection of a column, not a single row. The examiner states that a selected subset of "S", "F", "H", "K", and ";" comprise a "single" row of characters from a QWERTY style keyboard. However, the above letters represent a partial group of letters from a row (every other letter). The letters are not a single row of characters that are associated with a traditional QWERTY style keyboard.

Furthermore, the selection of a letter in Wang requires two-keystroke sequence. Claim 1 of the present invention associates each of the keys in the first set with a character and states "that when any of said first set of multiple keys is actuated said associated character is input to said electronic appliance." In Wang, once a column is selected by the first set of keys 102-11 – 102-7, one of a second set of keys (102-1 – 102-6) is pressed, thus selecting the desired letter for input. The examiner states on page 5 that "when any of said first set of multiple keys is actuated a character is input." However, the first set of keys 102-11 – 102-7 can not be actuated as input keys because the input process of Wang requires two steps (see Wang, column 3, lines 41-53). The examiner cites an example of the two-stroke sequence on pages 5 and 6 of his answer. The two-keystroke sequence teaches away from the present invention's goal to reduce keystroke combinations for faster input (see specification, page 2, lines 18-20; page 4, lines 2-6; page 5, lines 14-19; and page 6, lines 2-6).

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In claim 1 of the present invention a second set of keys is provided wherein at least one key is actuated to change the selected row. The examiner states Wang shows a second set of keys 102-1 – 102-6. However, the second set of keys in Wang does not change the selected subset or selected row represented by the first set of keys in the present invention. Wang's second set of keys are used as a step in a two-keystroke sequence – selecting only a single character.

#### Claim 30

On page 6 the examiner states that "Lu teaches 'normal keyboard' symbols...are arranged in two tables 2 and 4." Claim 30 of the present invention states that "said set of input characters comprises a row from a set of keyboard rows." Although the two tables in Lu contain keyboard symbols (such as alphabet and numeric marks), they are not arranged in keyboard style rows. Rather, Lu's organizing principle is of the well-known sequence of the letters of the alphabet (see Lu, column 4, lines 1-4). The tables of Lu teach away from a goal of the present invention to emulate known keyboard layouts. The examiner also states that in Lu "the user first selects an index symbol whose corresponding subset (i.e. row of the table) contains the desired symbol, thus teaching that a set of input characters comprise a row from a set of keyboard rows." Lu teaches a multi-level keyboard layout. The multi-level layout requires a user to first select an index character from a top index to display a "second level" subset. Once the second level subset is displayed, a symbol may be chosen. The keyboard in Lu then resets itself only to the top index symbols (see Lu, column 5, lines 31-37 and column 6, lines 1-19). Claim 30 requires that actuation of a key from the first set of keys causes a character to be input. To input a character in Lu, the user is required to make two taps for input every time—first, use the keys to select from the index, and second, use the same keys to select from the displayed characters. The first set of

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keys in Lu is not associated with a keyboard row as in the present invention. The keys in Lu are selection and input keys.

On page 7 the examiner states the "in claim 30, neither the top, bottom, nor side surfaces are described or distinguished from each other." However, claim 30 clearly states that the electronic appliance includes "a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces." The side surfaces of the present invention are described and distinguished from the top and bottom surfaces (see also figures 2c and 5a-5b of the present invention). In addition, claim 30 requires a first set of input keys and at least one selection key to be "located on any of said side surfaces." Lu does not show or describe side surfaces. Further, Lu does not show or describe keys on a side surface, wherein the side surface connects the top and bottom surfaces.

### Claim 3

A requirement in claim 3 is that each of the keys of the first set of keys "comprises an electronic character display...retaining an image of an associated character of the selected row." The examiner states on pages 7-8 that the key 102-11 in Wang (figure 1b) "would have the "S" displayed." However, the key 102-11 is associated with a character, and does not have an electronic display. Wang does not describe an electronic character display nor does it invite such teaching. The Acevedo reference describes display keys with a liquid crystal display on a conventional keyboard for use with a computer. Acevedo does not provide or suggest a reduced character keyboard input having a single row of characters. Further, Acevedo does not provide any motivation for combination with Wang. The combination of Acevedo and Wang is not suggested nor would it have been obvious to one of ordinary skill in the art.

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As noted by the examiner, the remaining claims (claims 4 and 5; 7; 8, 9, 12, and 31-33; 10, 11, 13, and 34; 14; 15, 16, 18, and 19; 17; 20-29, 35, and 36) should be considered in light of the arguments presented above, as well as those arguments provided in the appeal brief and prior responses.

### SUMMARY

None of the references, cited or applied, provide for the specific claimed details of applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

As this Reply Brief has been timely filed within the set period of response, no petition for extension of time or associated fee is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided to Deposit Account No. 09-0441.

Respectfully submitted,



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